

AMENDMENTS TO THE DRAWINGS:

Applicant respectfully submits two Replacement Sheets of drawings, including Figs. 79-81, for the approval of the Examiner. Applicant amended Figs. 79-81 as suggested by the Examiner, and which are now labeled "Prior Art." Accordingly, Applicant respectfully requests that the drawings be entered.

REMARKS

In the Office Action¹, the Examiner objected to FIGS. 79-81 and required replacement sheets under 37 C.F.R. 1.121(d). The Examiner rejected claims 35-44 and 48 under 35 U.S.C. § 103(a) as being unpatentable over Hisamoto et al. (U.S. Patent No. 5,115,289, hereafter "Hisamoto") in view of Ohmi et al. (U.S. Patent No. 6,316,813, hereafter "Ohmi"); and rejected claim 43 under 35 U.S.C. § 103(a) as being unpatentable over Hisamoto, in view of Ohmi and Furukawa et al. (U.S. Patent No. 6,333,229, hereafter "Furukawa"). Claims 3-21 and 24-44 and 48 remain pending, of which claims 3-21 and 24-34 withdrawn are from consideration.

By this Amendment, Applicant submits proposed replacement drawing sheets consistent with the Examiner's suggestion, as discussed in the Amendment to Drawings section. Accordingly, Applicant respectfully requests that the objection to Figs. 79-81 be withdrawn. Applicant amends claim 48 to even more clearly set forth the present invention. Claim 37 is amended to include a minor typographical correction.

In the Office Action, the Examiner rejected claims 35-44 and 48 under 35 U.S.C. § 103(a) as being unpatentable over Hisamoto in view of Ohmi. Applicant respectfully traverses this rejection. To establish a *prima facie* case of obviousness, three basic criteria must be satisfied. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine references. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

combined) must teach or suggest all of the claim elements. See M.P.E.P. § 2143.

Moreover, the requisite teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicant's disclosure. See *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). See M.P.E.P. § 706.02(j).

From the onset, Applicant notes that although the Examiner indicated, on the coversheet and on page 2 of the Office Action, that claim 48 is rejected, the Examiner failed to provide a basis for the rejection of claim 48. Instead, the Examiner addressed claim 1, which was canceled in a previous amendment. (Office Action at page 2). If the Examiner adheres to a rejection of claim 48, Applicant respectfully requests that the Examiner provide a rejection in accordance with M.P.E.P. § 706.

To the extent that the Examiner's rejection of claim 48 is understood, Applicant respectfully traverses the rejection. Specifically, Hisamoto and Ohmi fail to teach or suggest at least "a convex semiconductor layer of the first conductivity type directly on the semiconductor substrate . . . a source region and a drain region of a second conductivity type on the substrate and in the convex semiconductor layer," as recited in claim 48.

At page 2 of the Office Action, the Examiner asserts that Hisamoto teaches forming "a convex semiconductor layer of the first conductivity type on the semiconductor substrate," and further teaches forming "a source region and a drain region . . . in the convex semiconductor layer," as recited in claim 48. Applicant respectfully disagrees.

Hisamoto clearly discloses in, for example, in Fig. 1, that source 40 and drain 50 are formed on insulator 20. Furthermore, in each embodiment disclosed by Hisamoto, the reference teaches forming a source region and drain region (or bit lines corresponding to such regions), either on the insulating layer, or on a substrate layer on an insulating layer. However, Hisamoto fails to teach or suggest forming at least a “convex semiconductor layer,” where the source and drain are formed “on the substrate surface,” as recited in claim 48.

Applicant also notes that Ohmi does not disclose forming “a source and drain region . . . on the substrate and in the convex semiconductor layer,” as recited in claim 48. Instead, as shown, for example, in Fig. 1D, Ohmi forms the source 6 and drain 7 regions in the p-well region 2. In another presented embodiment shown, for example, in Fig. 10, Ohmi teaches forming source 203 and drain 204 in substrate 201. However, Ohmi fails to teach or suggest forming “a source region and a drain region . . . on the substrate and in the convex semiconductor layer,” as recited in claim 48. Accordingly, neither Hisamoto nor Ohmi, alone or in combination, teach or suggest each and every limitation recited in claim 48.

In addition, Hisamoto teaches away from the Examiner’s proposed combination, negating the motivation required to establish a *prima facie* case of obviousness. In particular, Hisamoto requires a channel which is formed so as to be “insulated substantially from the substrate,” to reduce leakage current when the “degree of integration” is increased. (Col. 1, lines 39-45; col. 3, lines 40-44). Thus, the source and drain regions of Hisamoto cannot be formed “on the substrate,” as recited in claim 48, since the channel of Hisamoto is substantially insulated from the substrate. One of

ordinary skill in the art would therefore not be motivated to combine Hisamoto and Ohmi in the manner suggested by the Examiner, given the contrary teachings of Hisamoto.

For at least the above discussed reasons, *no prima facie* case of obviousness has been established for claim 48, based on Hisamoto and Ohmi. In addition, claims 35-44 each depend from independent claim 48, and accordingly incorporate each and every element of claim 48. Thus, claims 35-44 are allowable over Hisamoto and Ohmi for at least the above discussed reasons with respect to claim 48. Applicant therefore respectfully requests that the Examiner reconsider and withdraw the rejection of claims 35-44 and 48 under 35 U.S.C. § 103(a).

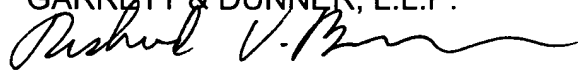
Applicant respectfully traverses the rejection of claim 43 under 35 U.S.C. § 103(a) as being unpatentable over Hisamoto in view of Ohmi and Furukawa. Applicant notes that claim 43 depends from claim 48, and thus, incorporates all the limitations of claim 48. As set forth above, Hisamoto and Ohmi fail to teach each and every element of claim 48. Furukawa fails to cure the deficiencies of Hisamoto and Ohmi. That is, Furukawa, although drawn to a "method for manufacturing a T-gate," (col. 1, lines 8-9), also fails to teach or suggest "a source region and a drain region . . . on the substrate and in the convex semiconductor layer," as recited in claim 48 and required by claim 43. Furukawa also fails to provide a motivation or suggestion to combine the references as proposed by the Examiner. Thus, claim 43 is allowable over Hisamoto, Ohmi, and Furukawa, for at least these reasons. Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection of claim 43.

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

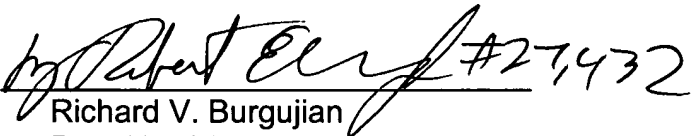
Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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GARRETT & DUNNER, L.L.P.



Dated: July 5, 2005

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Attachment: Two Replacement Sheets including Figs. 79-81.